

1-16. (CANCELED)

17. (NEW) A transmission brake (1) having one housing (13), at least one first friction element (4) fastened upon an outer toothing (10) of a transmission shaft (3) to be braked and at least one second friction element (5), non-rotatably situated relative to the housing (13), upon an inner toothing (11) in an aperture in a transmission housing (2), the same as one fastening device by which one actuation element (8), movable by means of an electromagnetic actuation device, can be axially pressed against the first and second friction elements (4, 5), upon the outer toothing (10) of the transmission housing wall (2), one armature (8) is non-rotatably and axially movably disposed as an actuation element.

18. (NEW) The transmission brake according to claim 17, wherein the fastening device comprises one electromagnetically acting toroidal coil (6, 7) which can be supplied with a regulated coil current via a pulse width, a modulated voltage generated by a control line and a regulation device (16) and one driver stage (18) which can be supplied with a regulated coil current.

19. (NEW) The transmission brake according to claim 17, wherein several separate coils (6, 7) are disposed, forming a circle, in the housing (13) of the transmission brake (1).

20. (NEW) The transmission brake according to claim 17, wherein the transmission brake (1) is integrated at least partly in a transmission housing wall (2).

21. (NEW) The transmission brake according to claim 20, wherein the toroidal coil (6, 7) is situated in a half-shell housing (13) of the transmission brake (1) which by an open side is fastened on the transmission housing (2).

22. (NEW) The transmission brake according to claim 17, wherein the first friction element (4) is axially movably situated upon the transmission shaft (3) and the second friction element (5) on the transmission housing (2).

23. (NEW) The transmission brake according to claim 17, wherein the first and second friction elements (4, 5) are designed as brake discs.

24. (NEW) The transmission brake according to claim 23, wherein the surface of the first and second friction elements (4, 5) is corrugated, preferably sinusoidally corrugated.

25. (NEW) The transmission brake according to claim 17, wherein the armature (8) is designed as a ring armature.

26. (NEW) The transmission brake according to claim 17, wherein the first and second friction elements (4, 5) on the transmission housing (2) and on the transmission shaft (3), under the action of the magnetic forces generatable by the toroidal coils (6, 7), can be pressed by the armature (8) in a direction to a stop face (14) fixed to the housing in the area of the toroidal coils (6, 7), preferably on the transmission brake housing (13).

27. (NEW) The transmission brake according to claim 17, wherein the transmission shaft (3) is a countershaft of one of an automatic or automated mechanical transmission.

28. (NEW) The transmission brake according to claim 17, wherein a control and regulation device (16) is designed so that therewith variable brake gradients can be adjusted on the transmission brake (1).

29. (NEW) The transmission brake according to claim 17, wherein a control and regulation device (16) is designed so that therewith the transmission brake can be operated as a vibration damper, preferably as torsional vibration damper, in a drive train.